

An unexpected reaction towards disodium cromoglycate

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In recent years disodium cromoglycate has become a useful tool in handling allergic rhinoconjunctivitis and asthma. Very few side effects have been reported, and the drug's working mechanism is thought to be its "mast cell stabilizing" effect. A patient with an immediate type I reaction to DSCG is reported on.

Key words: DSCG; untoward reaction; allergy; type I

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Since its introduction disodium cromoglycate (DSCG) has been considered a so-called "anti-allergic" drug, acting mainly as a "mast cell stabilizer" and thus attenuating or inhibiting the release of histamine and other mediators from the mast cell. Recent research shows that DSCG apparently has other effects as well. However there is little exact understanding of *how* this anti-allergic drug works.

Reports about side effects from DSCG have been few (3, 4), and this, in addition to the well-documented clinical effect on allergic reactions and in exercise-induced asthma, have made the drug a helpful tool in the management of allergic diseases in the upper and lower respiratory tract.

From the postulated working mechanism on the action of DSCG, the last type of side effect one would expect is a classical "type I" immediate allergic reaction. Nevertheless, this is what we consider happened to one of our patients, and I would like to report on this reaction to DSCG.

Our patient, a woman aged 23, was examined in our department for the first time in 1981. She had been suffering for several years from allergic rhinoconjunctivitis and asthma. Skin testing confirmed the clinical suspicion of

tree pollen allergy. There was also some reaction to animal danders. She underwent a 2½ year course of hyposensitization to tree pollen extract and the symptoms improved. In the first 2 years she responded well to local treatment with DSCG and local application of antihistamines.

In the spring of 1984 she complained of worsening of the rhinoconjunctivitis after using DSCG in the eyes and nose. The symptoms improved when the drug was discontinued, and returned when she restarted the medication. A provocation test was done by chance, as we had explained that sometimes the eye drops cause a slight irritative reaction, so she went on using these alone. She then got an immediate reaction with red and swollen conjunctiva, sneezing and runny nose. The patient also reported some coughing and a slight feeling of tightness in the chest after the application of DSCG eye drops. We therefore decided to do a skin test with the substance. We applied one drop of the eye drops, one of the nasal spray substance and one of the nebulizer solution, undiluted, and made a standard prick test. This produced an immediate and typical wheal and flare reaction, also to the nebulizer solution, which is pure DSCG without any addition of benzalkonium chloride,



Fig. 1. Record of skin reactions to DSCG. The first test was done with undiluted preparations on May 9, 1985 and repeated on December 17, 1985 with undiluted dilutions 1/10 and 1/100, still with positive reactions. F (lower) indicates size of flare and W (upper) of wheal as recorded on translucent tape at the prick test. Figure shows skin reactions to undiluted DSCG preparations of eye drops, nasal spray solution, and nebulizer solution.

as in the eye drops and nasal spray solution (Fig. 1). As the test was done in the spring, we deemed it necessary to repeat it "out of season", in the late fall. We used undiluted DSCG and dilutions 1/10 and 1/100, and also this time there were typical skin reactions.

We have been in contact with the producers and an allergy laboratory, hoping it would be possible to perform a RAST, but so far we have not succeeded.

Three known atopics have been similarly tested with eye drops and nebulizer solution, with no resultant reactions.

DISCUSSION

If DSCG acts as a mast cell stabilizer, one would expect the substance as such to inhibit an immediate allergic reaction even if specific IgE antibodies to DSCG were present on the surface of the mast cell and in the blood. I find this reaction, which in my opinion satisfies the criteria for an immediate allergic reaction, a puzzling experience, adding to my confusion about the working mechanism of DSCG.

Any comments and theories about our observation will be welcome, especially if others have had similar experiences.

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